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EXAMINER	
PARSONS, THOMAS H	

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1745	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,293	OHARA ET AL.	
	Examiner	Art Unit	
	Thomas H. Parsons	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-25,27-31 and 33* is/are rejected.

7)☐ Claim(s) *8,26 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because of the following informalities:.

Figure 23: suggest amending the Figure to include a lead line from reference sign 69c located at the lower right-hand corner of the Figure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

Page 2, line 11, suggest deleting the first occurrence of "the".

Page 21, line 14, suggest changing "includesone" to --includes one--;

Line 15, suggest changing "12" to --12b--; and,

Line 18, suggest changing "includestwo" to --includes two--.

Page 25, line 23, suggest changing "36b" to --36a--.

Page 38, line 6, suggest changing "An node" to --Anode--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 5, 33, 6, 7, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "unavoidable parts" in line 22. It is unclear as to what is meant by "unavoidable parts". Claims 5 and 33 are rejected to as being dependent upon rejected claim 4.

Claim 6 recites the limitation "the anode or cathode surrounding part" in line. There is insufficient antecedent basis for this limitation in the claim. Claims 7, 10 and 11 are rejected to as being dependent upon rejected claim 6.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-6, 9-11, 12-25, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koncar et al. (5,942,347) (hereafter Pat '347) in view of EP 1, 223, 629 (hereafter 'EP 629).

Claim 1: Pat '347 in Figures 1 and 4 discloses a polymer electrolyte fuel cell comprising:

a membrane electrode assembly forming a cell comprising a hydrogen-ion conductive polymer electrolyte membrane (25) and an anode (30) and a cathode (35) sandwiching the polymer electrolyte membrane;

an anode-side separator plate (39b) having a pair of fuel gas manifold apertures (54), a pair of oxidant gas manifold apertures (55), and a fuel gas flow channel (46) connected to the pair of fuel gas manifold apertures for supplying and discharging a fuel gas to and from the anode;

a cathode-side separator plate (39a) having a pair of fuel gas manifold apertures (54), a pair of oxidant gas manifold apertures (55), and an oxidant gas flow channel (41) connected to the pair of oxidant gas manifold apertures for supplying and discharging an oxidant gas to and from the cathode;

an anode-side sealing member (43, 57) provided on the anode-side surface of the anode-side separator plate; and

a cathode-side sealing member (43, 57) provided on the cathode-side surface of the cathode-side separator plate,

the membrane electrode assembly being sandwiched under pressure between the anode-side and cathode-side separator plates to form the cell,

wherein the anode-side sealing member and the cathode-side sealing member seal the cell, in cooperation with the polymer electrolyte membrane, at sealing parts where the anode-side and cathode-side sealing members are opposed to each other, to prevent the fuel gas and the oxidant gas from leaking out of the fuel gas flow channel and the oxidant gas flow channel (col. 1: 13-24 and 58-61, col. 10: 7-39, col. 11: 14-54, and col. 12: 3-12).

Pat '347 does not disclose that the one of the sealing members has a pointed rib that contacts the sealing parts in a linear manner, and the other of the sealing members contacts the sealing parts surface-to-surface.

EP '629 in Figures 6-11 discloses that the one of the sealing members (e.g. 62) has a pointed rib (62a) that contacts the sealing parts in a linear manner, and the other of the sealing members (61) contacts the sealing parts surface-to-surface (paragraphs [0010]-[0039], and, [0052]-0072].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the seals of Pat '347 with the seals of EP '629 because EP '629 discloses seals that would have provided a thin seal portion, improved an assembling

property, prevented a position shift, made a surface pressure low and uniform thereby improving the overall assembly cost, fuel cell stability and performance (paragraphs 0108].

Claim 2: The rejection of claim 2 is as set forth above in claim 1 wherein further Pat '347 in Figures 1 and 4 discloses a polymer electrolyte fuel cell wherein:

the polymer electrolyte membrane (25) has a pair of fuel gas manifold apertures (54) and a pair of oxidant gas manifold apertures (55),

the anode-side sealing member has a first anode-side sealing section (43) that surrounds the anode and the fuel and oxidant gas manifold apertures to form a closed loop and a second anode-side sealing section (57) that separates the anode from the oxidant gas manifold apertures,

the cathode-side sealing member has a first cathode-side sealing section (43) that surrounds the cathode and the fuel and oxidant gas manifold apertures to form a closed loop and a second cathode-side sealing section (57) that separates the cathode from the fuel gas manifold apertures, (col. 1: 13-24 and 58-61, col. 10: 7-39, col. 11: 14-54, and col. 12: 3-12) and

the anode-side and cathode-side sealing members are sandwiched between the anode-side and cathode-side separator plates and pressed against the polymer electrolyte membrane, in such a manner that the pointed rib comes in contact with the polymer electrolyte membrane in a linear manner and the other sealing member comes in contact with the polymer electrolyte membrane surface to surface.

Claim 3: The rejection is as set forth above in claims 1 and 2 wherein further "at '347 in Figures 1 and 4 disclose that the second anode-side sealing section (57) separates the anode from both the fuel and oxidant gas manifold apertures (54, 55, respectively); and

the second cathode-side sealing section (57) separates the cathode from both the fuel and oxidant gas manifold apertures (54, 55, respectively).

Claim 4: The rejection is as set forth above in claim 1 wherein Further Pat 347 in Figures 1 and 4 discloses a polymer electrolyte fuel cell wherein:

the polymer electrolyte membrane (25) is large enough to cover the anode and the cathode but not so large as to cover any part of the fuel and oxidant gas manifold apertures,

the anode-side sealing member has a first anode-side sealing section (56, 57) that surrounds the anode and the fuel gas manifold apertures to form a closed loop and a second anode-side sealing section (43) that surrounds the polymer electrolyte membrane in combination with the first anode-side sealing section, the first anode-side sealing section being in contact with the polymer electrolyte membrane at the anode surrounding part,

the cathode-side sealing member has a first cathode-side sealing section (56, 57) that surrounds the cathode and the oxidant gas manifold apertures to form a closed loop and a second cathode-side sealing section (43) that surrounds said polymer electrolyte membrane in combination with said first cathode-side sealing section, the first cathode-side sealing section being in contact with the polymer electrolyte membrane at the cathode surrounding part,

the anode-side and cathode-side sealing sections correspond in position except unavoidable parts, and the anode-side and cathode-side sealing members are sandwiched between the anode-side and cathode-side separator plates and pressed against each other or the polymer electrolyte membrane at the respective sealing sections, and at the pressed parts.

As to the recitation "the pointed rib comes in contact with the polymer electrolyte membrane or the other sealing member in a linear manner, and the other sealing member comes

in contact with the polymer electrolyte membrane or said one of the sealing members surface to surface", the rejection is as set forth above in claim 1.

Pat '347 discloses an anode and cathode sealing member that has a first anode and cathode sealing side section (56, 57) that surrounds the fuel and oxidant manifold apertures to form a closed loop, and a second anode and cathode sealing section (43) that surrounds the polymer electrolyte membrane. In combination, the first and second sealing sections would obviously provide for surrounding the anode and cathode.

Claim 5: As forth above in claim 1, EP '629 in Figures 6-11 disclose that one of the sealing members is so configured that the height of the rib at the part of the first sealing section not in contact with the polymer electrolyte membrane and the height of the rib at the second sealing section are greater than the height of the rib at the part of the first sealing section in contact with the polymer electrolyte membrane.

Claim 6: The rejection of claim 6 is as set forth above in claim 1. However, the Pat '347 combination does not disclose that a rib of one of the sealing members is, at the anode or cathode surrounding part, shaped like a wedge of which cross section is thin on the inner side and thick on the outer side. However, EP '629 in paragraph [0109] discloses "...since a pair of gasket lips are formed so as to have different cross sectional shape and the flat surface portion is provide in one gasket...". Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have modified the shape of the rib to include any shape including a wedge shape because EP '629 discloses ribs having different cross sectional shapes that would have made it possible to enlarge an allowable range of position shift from a medium value with respect to a closely contact position with another gasket lip with the opposing

member, whereby it is possible to sufficiently secure a necessary sealing property even where the position shift is somewhat great, thereby improving the overall integrity, mechanical stability, gas leakage, and overall performance of the fuel cell.

Claim 9: Because the polymer electrolyte fuel cell of the Pat '347 combination is structurally the same as that instantly disclosed, the ratio of pressure loss Pc in the clearance between the electrode and the sealing member to pressure loss Pf in the gas flow channel adjacent to the electrode would obviously be greater than 0.9.

Claim 10: The Pat '347 combination does not disclose wherein one-side clearance cl between the cathode and the cathode surrounding part of the cathode-side sealing member and a hydraulic diameter d of the clearance cl satisfy the formula: $d < (D \times l \times P)/0.54L$,

wherein l is the length of the clearance cl, L is the length of the oxidant gas flow channel per one path of the cathode-side separator plate, D is the hydraulic diameter of the oxidant gas flow channel per one path of the cathode-side separator plate, P is the number of paths of the oxidant gas flow channel of the cathode-side separator plate, and the hydraulic diameter d=(cross section of the clearance) divided by (peripheral length of the cross section) x 4.

Because the polymer electrolyte fuel cell of the Pat '349 is structurally similar to the instantly disclosed, it obviously would provided the claimed one-side clearance cl between the cathode and the cathode surrounding part of the cathode-side sealing member and a hydraulic diameter d of the clearance cl satisfying the formula: $d < (D \times l \times P)/0.54L$.

Claim 11: The Pat '347 combination does not disclose that the one-side clearance cl satisfies the formula: 0.25 mm < cl. However, because the polymer electrolyte fuel cell of the

Pat '349 is structurally similar to the instantly disclosed, it obviously would provided the claimed one-side clearance cl satisfying the formula: 0.25 mm < cl.

Claim 12: The rejection is as set forth above in claim 1 wherein further the Pat '347 combination discloses that least one of the anode-side and cathode separator plates has a main surface covered with the corresponding sealing member.

Claim 13: The rejection is as set forth above in claim 1 wherein further EP '629 discloses that at least one of the anode-side and cathode-side sealing members is molded on the corresponding separator plate (paragraph [0036]).

Claim 14: The rejection is as set forth above in claim 1 wherein further EP '629 discloses that at least one of the anode-side and cathode-side sealing members is fitted (inserted into grooves) to the corresponding separator plate (paragraph [0061]).

Claim 15: The rejection is as set forth above in claim 1 wherein further EP '629 discloses that at least one of the anode-side and cathode-side sealing members bonded to the corresponding separator plate (paragraph [0036]).

Claim 16: The rejection is as set forth above in claim 1 wherein Further Pat '347 discloses a polymer electrolyte fuel cell wherein the pair of anode-side and cathode-side sealing members comprises:

anode-side and cathode-side electrode sealing parts (43) that sandwich the polymer electrolyte membrane (25) around the anode (30) and the cathode (35);

anode-side and cathode-side manifold aperture sealing parts (56, 57) that sandwich the polymer electrolyte membrane around the anode-side and cathode-side fuel gas manifold apertures and the anode-side and cathode-side oxidant gas manifold apertures; and

anode-side and cathode-side connection groove sealing parts (see, e.g., EP '629, paragraph [0061]) that sandwich the polymer electrolyte membrane on both sides of respective connection grooves connecting the fuel gas flow channel to the anode-side fuel gas manifold apertures and connecting the oxidant gas flow channel to the cathode-side oxidant gas manifold apertures.

Claim 17: The rejection is as set froth above in claim 1 and 16 wherein Pat '347 in Figures 1 and 4 discloses that the anode-side sealing member separates the anode-side fuel gas manifold apertures (54) from the anode (30), with the anode-side manifold aperture sealing part (57) and the anode-side electrode sealing part (43), which surrounds the anode; and the anode-side oxidant gas manifold apertures (55) from the anode, with the anode-side manifold aperture sealing part (43) and the anode-side electrode sealing part (43).

Claim 18: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the anode-side sealing member (56, 57) separates the anode-side fuel gas (54) and oxidant gas manifold (55) apertures from the anode (30) with the anode-side manifold aperture sealing part (57).

Claim 19: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the anode-side sealing member (43) separates the anode-side fuel gas (56) and oxidant gas (57) manifold apertures (54, 55) from the anode (30) with the anode-side electrode sealing part (43), which surrounds the anode.

Claim 20: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the cathode-side sealing member covers the whole main surface of the cathode-side separator plate, including the cathode-side electrode sealing part (43), the

cathode-side manifold aperture sealing part (52), and the cathode-side connection groove sealing part (see, e.g., EP '629, paragraph [0061]).

Claim 21: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the cathode-side sealing member (43, 56, 57) is approximately the same size as the anode-side sealing member (43, 56, 57).

Claim 22: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the anode-side sealing member comprises a first anode-side sealing section (43) that surrounds the fuel gas flow channel and the pair of anode-side fuel gas manifold apertures to form a closed loop.

Claim 23: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the anode-side and cathode-side manifold aperture sealing parts each comprises: anode-side oxidant gas manifold aperture sealing parts (57) that surround the anode-side oxidant gas manifold apertures; anode-side cooling water manifold aperture sealing parts (58) that surround a pair of anode-side cooling water manifold apertures; and anode-side spare manifold aperture sealing parts that surround a pair of anode-side spare manifold apertures.

Claim 24: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the first anode-side sealing section comprises: the anode-side electrode sealing part (43), which surrounds the fuel gas flow channel; anode-side fuel gas ones of the anode-side manifold aperture sealing parts (57) that surround the outer half of the anode-side fuel gas manifold apertures; and the anode-side connection groove sealing parts located on both sides of the anode-side connection grooves (see, e.g., EP '629, paragraph [0061]).

Claim 25: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the anode-side sealing member comprises first, second, third, and fourth sealing parts, wherein: the first sealing parts (43) connect the anode-side fuel gas manifold aperture sealing parts (54) with the anode-side oxidant gas manifold aperture sealing parts; the second sealing parts (43) connect the anode-side fuel gas manifold aperture sealing parts (54) with the anode-side cooling water manifold aperture (58) sealing parts; the third sealing parts connect the anode-side oxidant gas manifold aperture sealing parts with the anode-side spare manifold aperture sealing parts; and the fourth sealing parts connect the anode-side cooling water manifold aperture sealing parts with the anode-side spare manifold aperture sealing parts.

Claim 27: The rejection is as set forth above in claim 1 wherein EP 629 further discloses in Figures 6-11 a cathode-side sealing member has a flat surface on a major planar side facing the anode-side separator plate and is mounted along a sealing member groove of the cathode-side separator plate, which sealing member groove receives the cathode-side sealing member (see, e.g., EP '629, paragraph [0061]).

Claim 28: The rejection is as set forth above in claims 1 and 16 wherein Pat '347 further discloses in Figures 1 and 4 that the cathode-side sealing member comprises a first cathode-side sealing section (43) that surrounds the oxidant gas flow channel and the pair of cathode-side oxidant gas manifold apertures to form a closed loop.

Claim 29: The rejection is as set forth above in claim 1 and 28 wherein Pat '347 discloses that the cathode-side sealing member further comprises: cathode-side fuel gas manifold aperture sealing parts (56) that surround the cathode-side fuel gas manifold apertures; cathode-

side cooling water manifold aperture (58) sealing parts that surround a pair of cathode-side cooling water manifold apertures; cathode-side spare manifold aperture sealing parts that surround a pair of cathode-side spare manifold apertures; and first cathode-side sealing parts located on both sides of each of a plurality of connection grooves of the anode-side separator plate, which connection grooves connect the anode-side fuel gas manifold apertures to the fuel gas flow channel (see, e.g., EP '629, paragraph [0061]).

Claim 30: The rejection is as set forth above in claims 1, 28 and 29 wherein further Pat '347 in Figures 1 and 4 discloses that the first cathode-side sealing section comprises: a cathode-side electrode sealing part (57) that surrounds the oxidant gas flow channel; and cathode-side oxidant gas manifold aperture (58) sealing parts surrounding the outer half of the cathode-side oxidant gas manifold apertures, wherein: the cathode-side sealing parts are located on both sides of each of a plurality of cathode-side connection grooves that connect the cathode-side oxidant gas manifold apertures to the oxidant gas flow channel (see, e.g., EP '629, paragraph [0061]).

Claim 31: The rejection is as set forth above in claims 1, 28 and 29 wherein further Pat '347 in Figures 1 and 4 discloses that the cathode-side sealing member further comprises first, second, third, and fourth sealing parts, wherein: the first sealing parts (43) connect the cathode-side fuel gas manifold aperture sealing parts (56) with the cathode-side oxidant gas manifold aperture sealing parts (57); the second sealing parts (43) connect the cathode-side fuel gas manifold aperture sealing parts (56) with the cathode-side cooling water manifold aperture (58) sealing parts; the third sealing parts (43) connect the cathode-side oxidant gas manifold aperture (57) sealing parts with the cathode-side spare manifold aperture sealing parts; and the fourth

sealing parts (43) connect the cathode-side cooling water manifold aperture (58) sealing parts with the cathode-side spare manifold aperture sealing parts.

Claim 33: The rejection is as set forth above in claims 1, 4, and 5 wherein further EP '629 discloses that the height of the rib at the part of the first sealing section that is in contact with the polymer electrolyte membrane is greater than the height of the rib at the part of the first sealing section not in contact with the polymer electrolyte membrane by approximately the thickness of the polymer electrolyte membrane or more.

Allowable Subject Matter

7. Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. Claims 8, 26, and 32 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Statement of Reasons for the Indication of Allowable Subject Matter

9. The following is a statement of reasons for the indication of allowable subject matter:

In contrast to what is instantly disclosed above, the prior art references of record neither teach nor suggest, alone or in combination, what is instantly claimed: in particular,

A polymer electrolyte fuel cell wherein: the cathode-side sealing member comprises: (a) a first part that surrounds the oxidant gas flow channel and the pair of oxidant gas manifold

apertures to form a closed loop; (b) a pair of second parts that surround each of the pair of fuel gas manifold apertures to form closed loops; and (c) third parts that connect the first part with the second part.

Accordingly, claim 7 is patentably distinct from the prior art references of record.

A polymer electrolyte fuel cell wherein anode-side and cathode-side sealing members have a three-layered structure of a resin film, an adhesive layer formed on a separator side of the resin film, and a rubber layer formed on a face of the resin film opposite to the adhesive layer.

Accordingly, claim 8 is patentably distinct from the prior art references of record.

A polymer electrolyte fuel cell wherein: an anode-side sealing member comprises a second anode-side sealing section that forms a closed loop in combination with an anode-side fuel gas manifold aperture sealing parts of the first anode-side sealing section; and the anode-side oxidant gas, cooling water, and spare manifold apertures are located outside the closed loop.

Accordingly, claim 26 is patentably distinct from the prior art references of record.

A polymer electrolyte fuel cell wherein a second cathode-side sealing section comprises: a cathode-side manifold aperture sealing parts; and second cathode-side sealing parts connecting the cathode-side manifold aperture sealing parts wherein: the second sealing section forms a closed loop in combination with the cathode-side oxidant gas manifold aperture sealing parts of the first cathode-side sealing section, and the cathode-side fuel gas, cooling water, and spare manifold apertures are located outside the closed loop.

Accordingly, claim 32 is patentably distinct from the prior art references of record.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thomas H Parsons
Examiner
Art Unit 1745

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

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